Power Load Factor of Power Plant

2123. SHRIMATI VEENA VERMA:
SHRI SUSHILKUMAR SAMBHAJIRAO SHINDE:
SHRI RAJUBHAI A. PARMAR:

Will the Minister of POWER be pleasd to state:

(a) the power load factor of the power plant under different State and Central Electricity Boards during 1995-96, 1996-97; and

(b) what steps have been and are being taken to improve the power load factor; what is the international average power load factor and by what time the international level is likely to be reached by India, sector-wise and for the country taken as a whole?

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY AND THE MINISTER OF STATE OF THE MINISTRY OF POWER (SHRI YOGINDER K. ALAGH): (a) Sector wise Plant Load Factor (PLF) of Thermal Power Stations during 1995-96 and 1996-97 is given below :—

PLANT LOAD FACTOR (%)

Sector	1995-96	1996-97
Central Sector	70.9	71.0
State Sector	58.0	60.3
Private Sector	72.3	71·2
All India	63.0	64.4

(b) The steps being taken for optimum utilisation of installed capacity of thermal power stations are Renovation and Modernisation of old units, proper preventive maintenance schedule, periodical overhauling of equipment, incentive scheme for economic and efficient operation, implementation of a scheme for energy audit. Effective monitoring mechanism with the involvement of Railways and Coal companies to ensure supply of coal to the thermal power stations.

The performance of thermal power stations in developed countries is generally judged by availability factor and not on Plant Load Factor as is done in India. According to Common Minimum National Action Plan on Power evolved after deliberations by the Chief Ministers, it was agreed that the PLF of those thermal power stations having less than 40 per cent PLF at present would be increased by 3 per cent annually, by 2 per cent in case of those plants with PLF between 40 per cent and 60 per cent by 1 per cent for those plants with PLF over 60 per cent to achieve overall PLF in the State Sector to a minimum of 65 per cent and the National average to 70 per cent by 2002 A.D.

Installed capacity of Chamera Power Plant

2124. SHRI S. M. KRISHNA: Will the Minister of POWER be pleased to state:

(a) the installed capacity of three units, unit-wise of Chamera power plant and the details of capacity utilisation as on date;

(b) whether it is a fact that one unit of the plant is out of operation causing 100 crore loss to NHPC as reported in the Hindustan Times dated July 13, 1997;

(c) what are the reasons of closure;

(d) the details of terms and condition fixed with the SNC. Acres, the foreign firm constructed the unit;

(e) whether the technical problem of the unit has since been located if so by

when the unit would become operational; and

(f) if not, the remedial steps taken to locate the fault so that the investment on the unit does not go waste?

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY AND THE MINISTER OF STATE OF THE MINISTRY OF POWER (SHRI YOGINER K. ALAGH): (a) The Chamera Hydro-electric Project, Stage-I has an installed capacity of 540 Megawatts (MW) with 3 units of 180 MW each. The project is meeting a peak of 450 MW and the details are as under:

Unit I	180 MW
Unit II	90 MW
Unit III	180 MW
Total	450 MW

(b), (c), (e) and (f) The News item mentions about the outage of the Unit-I of Chamera Hydro-electric Project Stage-I and about faulty construction of the tunnel carrying water to the generating units. The facts are as follows:

All the Units of Chamera Project were running satisfactorily since commissioning in April 1994 and no major problem relating to turbine and generators were experienced. Operational problem with generating Unit-2 are being experienced since June 1996 when the load on the machine exceeds 90 MW.

Experts from GE Canada and GEC Alsthom and M/s. SNC/Acres were deputed to look into the problems and set right the machines from time to time. Experts from BHEL have been assisting the project authorities in resolving the problem. A team of experts comprising representative from Central Electricity Authority (CEA), Central Water Commission (CWC) and Uttar Pradesh, State Electricity Board (UPSEB) was constituted by National Hydro-electric Power Corporation (NHPC) to look into the problem and to make recommendation for improved performance. The committee's recommendation for rectification of Unit-2 are in line with the action being taken. Further investigations and assessments would be continued to ascertain the cause of trouble in Unit-2 during lean season of October—April when the system will permit such assessments.

There were no unusual problems with any of the equipment except the break down of a unit of GIS switchgear and the radial gates anchoring system which have been rectified/replaced. The Head Race Tunnel (H.R.T.) of 6.4 k.m. was constructed by Indian contractors.

It is not true that the generating units are hit by boulders. A concrete piece was found wedged before entrance to turbine on two occasions and this is not indicative of defect or danger to the HRT. This phenomenon is also neither uncommon nor unusual and in a similar manner, concreate pieces were found in the case of some other projects which were completed more than a decade back and the tunnels are intact. It is not true, that NHPC suffered a revenue loss of about Rs. 100 crores on account of problems in generating unit-2 in the last one year. The design energy of station is 1664 Million Units (MUs). The target of annual generating fixed by the CEA was 1700 MUs. The actual generation from Chamera Stage-I in 1996-97 was 1884 MUs. The excess generation from Chamera Stage-I over the design energy and annual target is 220 MUs and 184 MUs respectively.

(d) NHPC had entered into an agreement with Chamera constructors comprising SNC/ACRES, MIL and GE Canada for works of Chamera Hydro-electric project stage-I. SNC/ACRES was to provide consultancy in the area of engineering and project management, technical services for procurement, supervisory services for construction management, computer system and support and technology transfer. The scope of work for MIL now GEC Alsthom, Canada was to supply turbines, governors, inlet valves and gates (excluding radial gates) and supervisory services for installation, testing and commissioning of supplied equipment. The scope of work for GE Canada was to supply generators, bus ducts etc. and supervisory services for installation, testing and commissioning of the supplied

equipment. The duration of the services of SNC/Acres was for a period of six years commencing from 1-4-1984 and could be increased or decreased till the commissioning of the units. Accordingly the services of SNC/Acres were increased upto September, 1994 by NHPC i.e. beyond 6 months after commissioning for clearing the outstanding issues.

As per agreement the defect liability of the above suppliers for the equipment supplied by them for the period of 5000 hours of operation or 24 months from successful completion of commissioning whichever period expires first but in no event to exceed 56 months from the date of completion of scheduled delivery of all supplies i.e. 1987-1988.

The first defect of temperature rise in the turbine guide bearing (TGB) of Unit-2 was noticed on 7-6-1996 i.e. after expiry of defect liability period specified in the agreement.

Short fall in power generation

2125. SHRI PARAG CHALIHA: Will the Minister of POWER be pleased to state:

(a) whether less power has been generated during 8th Five Year Plan as compared with 7th Five Year Plan;

(b) if so, the details thereof and the reasons therefor;

(c) the quantum of power generated against the target set therefor during the 8th Five Year Plan alongwith the reasons of such shortfall, if any;

(d) whether Government have made any mid term appraisal of the 8th Five Year Plan;

(e) if so, the reasons of the failure of the said plant in the power-sector; and

(f) the measures contemplated for not repeating such failure in the 9th Plan period?

THE MINISTER OF STATE OF THE MINISTRY OF SCIENCE AND TECHNOLOGY AND THE MINISTER OF STATE OF THE MINISTRY OF POWER (SHRI YOGINDER K. ALAGH): (a) and (b) No, Sir. The total energy generated during the 8th Plan and 7th Plan are 1750.5 Billion Units and 1025.8 Billion Units respectively.

(c) The total power generated during the Eighth Five Year Plan was 1750.5 Billion Units. A Five Year Plan only gives capacity addition targets and generation target for terminal year and not five years.

(d) Yes, Sir.

(e) According to the Mid-Term Appraisal of Eighth Five Year Plan, the main reasons for shortfall in the target of capacity addition were constraints of resources, law and order problems, problems related to externally aided projects deficiencies in project management and in the case of private sector the delay in decision making by the State Government.

(f) The following measures are proposed to be adopted in the 9th Plan:

LONG TERM MEASURES:

(i) Capacity addition;

(ii) Greater mobilisation of resources/Private Sector involvment;

(iii) Demand side management/ energy conservation; and

(iv) Reduction of transmission and distribution losses.

SHORT TERMS MEASURES:

(i) Accelerating the completion of the on-going schemes;

(ii) Commissioning of short gestation liquid fuel projects;

(iii) Maximising generation from existing capacity through improvement in the Plan Load Factor;

(iv) Renovation and modernisation of the old plants; and

(v) Transfer of power from surplus regions to deficit regions/States.